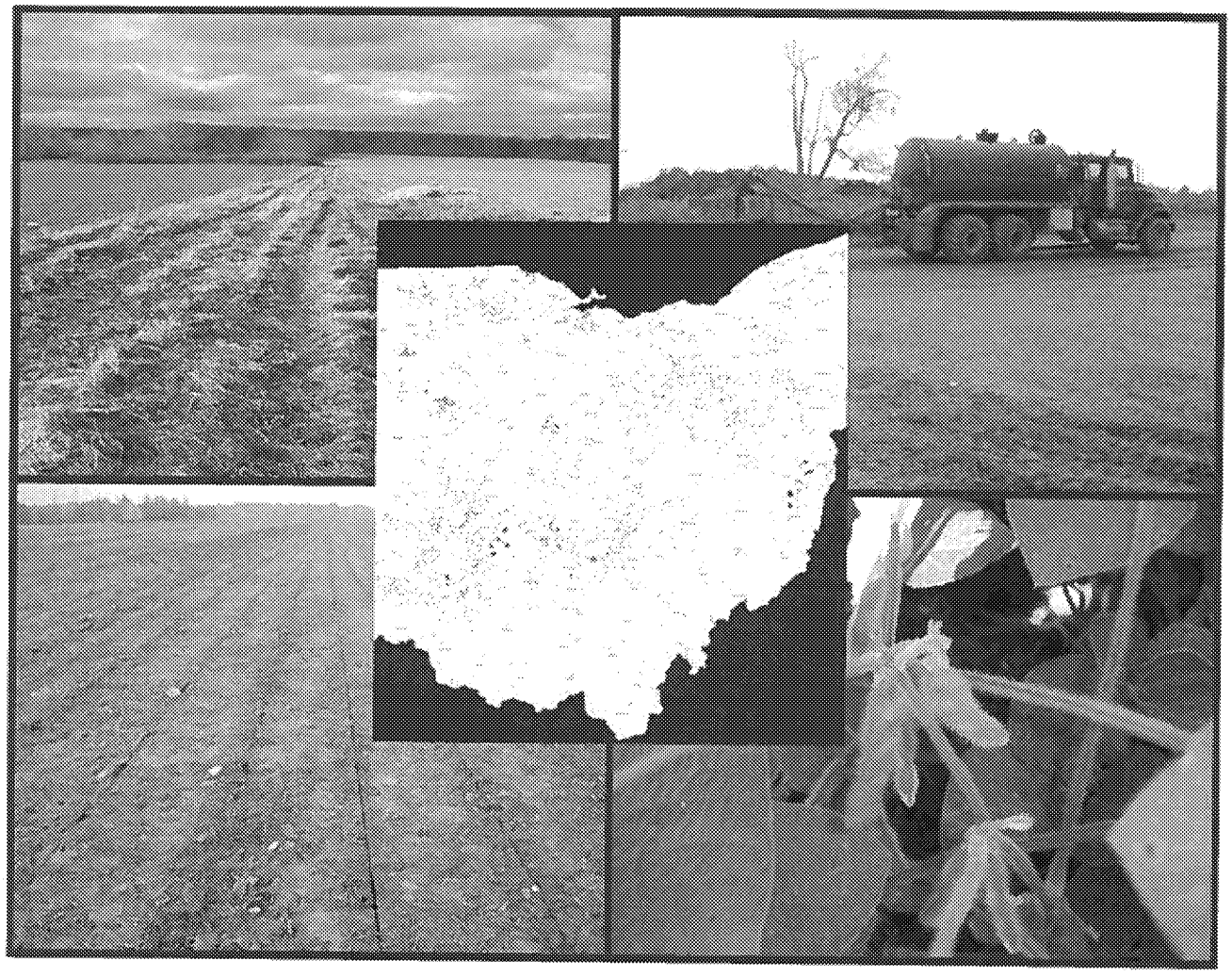
Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

Division of Surface Water

Application for Authorization: Class B Biosolids Beneficial Use Sites



Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Biosolids Treatment Works Information

Treatment works name: Emerald BioEnergy		
Ohio NPDES permit #: 4IN00204*AD		County: Morrow
Mailing address: 461 State Route 61		
City: Marengo	State: OH	Zip: 43334
Operator of record: Taylor Faecher		
Telephone number: (419) 253-5300		
Email address: tfaecher@renergy.com		

Certification Statement

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

2. I have read and understand Chapter 3745-40 of the Ohio Administrative Code (OAC) and I agree to beneficially use biosolids in accordance with all applicable beneficial use requirements and restrictions established in Chapter 3745-40 of the Ohio Administrative Code.

3. I agree to only beneficially use biosolids that have satisfied a pathogen reduction alternative and a vector attraction reduction option and have metals concentration below the pollutant ceiling concentrations as established in Chapter 3745-40 of the Ohio Administrative Code.

4. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.

Signature

2 / 12 / 18
Date

This form shall be signed by the operator of record for the treatment works, be an original signature, not a copy, and must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

Owner Consent for Beneficial Use

Exemption 6

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form BUA-1 to be beneficially used on my property at agronomic rates.

2. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, and collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.

3. I certify that I am holder of legal title to the property described on application form BUA-5, or am authorized by the holder to give consent for the land application of biosolids, and that there are no restrictions to the granting of consent under this form.

Exemption 6

2 / 9 / 2018
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

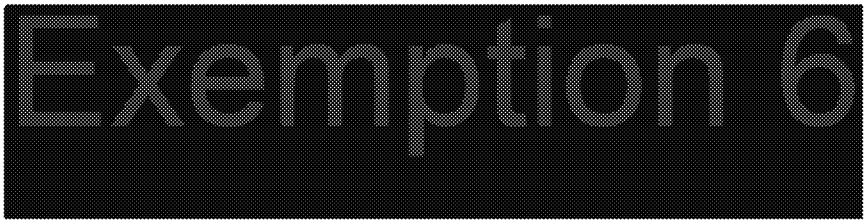
[1] For purposes of this form, "beneficial use site owner" means the person who owns the legal rights to the proposed beneficial use site.

[2] In the event the owner of the beneficial use site changes, Form BUA-2 must be revised and resubmitted to Ohio EPA.

Beneficial Use Site Operator Consent for Beneficial Use

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.



2 / 9 / 2018
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

[1] For purposes of this form, "beneficial use site operator" means the person who plants, grows, harvests or otherwise manages feed crops, fiber crops, food crops or pasture land on the proposed beneficial use site.

[2] In the event the operator of the beneficial use site changes, Form BUA-3 must be revised and resubmitted to Ohio EPA.

Beneficial User Information

Beneficial user[1]: Emerald BioEnergy		
Contact person: Taylor Faecher		
Mailing address: 461 State Route 61		
City: Marengo	State: OH	Zip: 43334
Telephone number: (419) 253-5300		
Email address: tfaecher@renergy.com		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

Signature[2] _____ Date 2/12/18

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

[1] For purposes of this form, the beneficial user means the person who sprays or spreads Class B biosolids onto the surface of the beneficial use site, injects below the surface of the beneficial use site, or incorporates into the soil of the beneficial use site, for the purpose of providing an agronomic benefit.

[2] In the event the beneficial user of the beneficial use site changes, Form BUA-4 must be revised and resubmitted to Ohio EPA.

Beneficial Use Site Information

Ohio EPA Site I.D. (Ohio EPA Use Only)

Field site I.D.: MOS-13-01

Beneficial use site location: Between Co Rd 156 and State Route 42 North of the digester

County: Morrow	**Township**:
Latitude: 40.44802	**Longitude**: -82.95546

Total acreage proposed for beneficial use:

Type of beneficial use to be performed:

Surface application ☐
Injection or immediate incorporation ■

Ground slope percent:

Less than 15%	■	15% to 19.9%	☐
Greater than 20%	☐		

Soil pH (s.u): 6.8

Soil phosphorus (mg/kg): 21

Bray Kurtz P1 ☐
Mehlich 3 ■

Bedrock depth (feet): 2.95

Type of crops to be grown:

Crop Type	Expected Yield
Corn	180
Soybeans	55
Wheat	
Pasture	
Hay	
Other:	

Soil Types:

Soil Unit Symbol	Soil Unit Name	Hydrologic Soil Group	Flooding Frequency Class
BIg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	D	None
Gwg1B1	Glynwood silt loam ground moraine, 2 to 6 percent slopes	D	None
P m	Pewamo silty clay loam, 0 to 1 percent	C / D	None

Applicable isolation distances:

Type of Isolation Distance			
Surface waters of the state	■	Sinkhole/UIC class V drainage	☐
Occupied building	■	Private potable water source	☐
Medical care facility	☐		

Are any endangered species or endangered species habitats located on the beneficial use site?

☐ Yes	■ No

If "Yes" is marked, list the types of endangered species or endangered species habitat:

Have biosolids been beneficially used on the site since July 20, 1993?

☐ Yes	■ No

If "Yes" is marked, list the biosolids generators and years beneficial use occurred:

Generator	NPDES permit No.	Year of Beneficial Use

The application must also include all of the following:

- ■ A soil map of the proposed beneficial use site;
- ■ A frequency flood class map of the proposed beneficial use site;
- ■ An aerial map of the proposed beneficial use site that clearly identifies the entrance of the beneficial use site from the nearest road and all applicable isolation distances as established in Chapter 3745-40 of the Ohio Administrative Code;
- ■ A vicinity road map at or near the township level that clearly identifies the proposed beneficial use site with all roads labeled; and
- ■ A copy of the most recent soil test results identified in this form.

lb/A

BROOKSIDE LABORATORIES, INC. 58251-14

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

Independent Consultant Brookside Consultants of Ohio, Inc. Date 2/5/2018

Sample Location BALD			1	2	3		
Sample Identification							
Lab Number			0020-1	0021-1	0022-1		
Total Exchange Capacity (ME/100 g)			11.76	9.72	8.30		
pH (H_2O 1:1)			6.9	6.7	7.1		
Organic Matter (360°C LOI) %			2.56	2.09	2.17		
Estimated Nitrogen Release		lb/A	71	62	63		
ANIONS	SOLUBLE SULFUR*	ppm	5	4	4		
ANIONS / PHOSPHORUS	MEHLICH III	lb/A P as P_2O_5	55	82	73		
		ppm of P	12	18	16		
	BRAY II	lb/A P as P_2O_5					
		ppm of P					
	OLSEN	lb/A P as P_2O_5					
		ppm of P					
EXCHANGEABLE CATIONS	CALCIUM*	lb/A	3350	2646	2318		
		ppm	1675	1323	1159		
	MAGNESIUM*	lb/A	586	466	454		
		ppm	293	233	227		
	POTASSIUM*	lb/A	146	170	166		
		ppm	73	85	83		
	SODIUM*	lb/A	22	24	20		
		ppm	11	12	10		
BASE SATURATION PERCENT							
Calcium		%	71.22	68.06	69.82		
Magnesium		%	20.76	19.98	22.79		
Potassium		%	1.59	2.24	2.56		
Sodium		%	0.41	0.54	0.52		
Other Bases		%	4.50	4.70	4.30		
Hydrogen		%	1.50	4.50	0.00		
EXTRACTABLE MINORS							
Boron* (ppm)			0.37	0.26	0.25		
Iron* (ppm)			150	160	107		
Manganese* (ppm)			23	17	40		
Copper* (ppm)			1.73	1.37	1.30		
Zinc* (ppm)			1.16	2.96	1.16		
Aluminum* (ppm)			569	492	574		
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	Bray I P (ppm)		7	14	13		

* Mehlich III Extractable

lb/A

BROOKSIDE LABORATORIES, INC. 58251-14

SOIL AUDIT AND INVENTORY REPORT

Name Ringler Energy City Cardington State OH

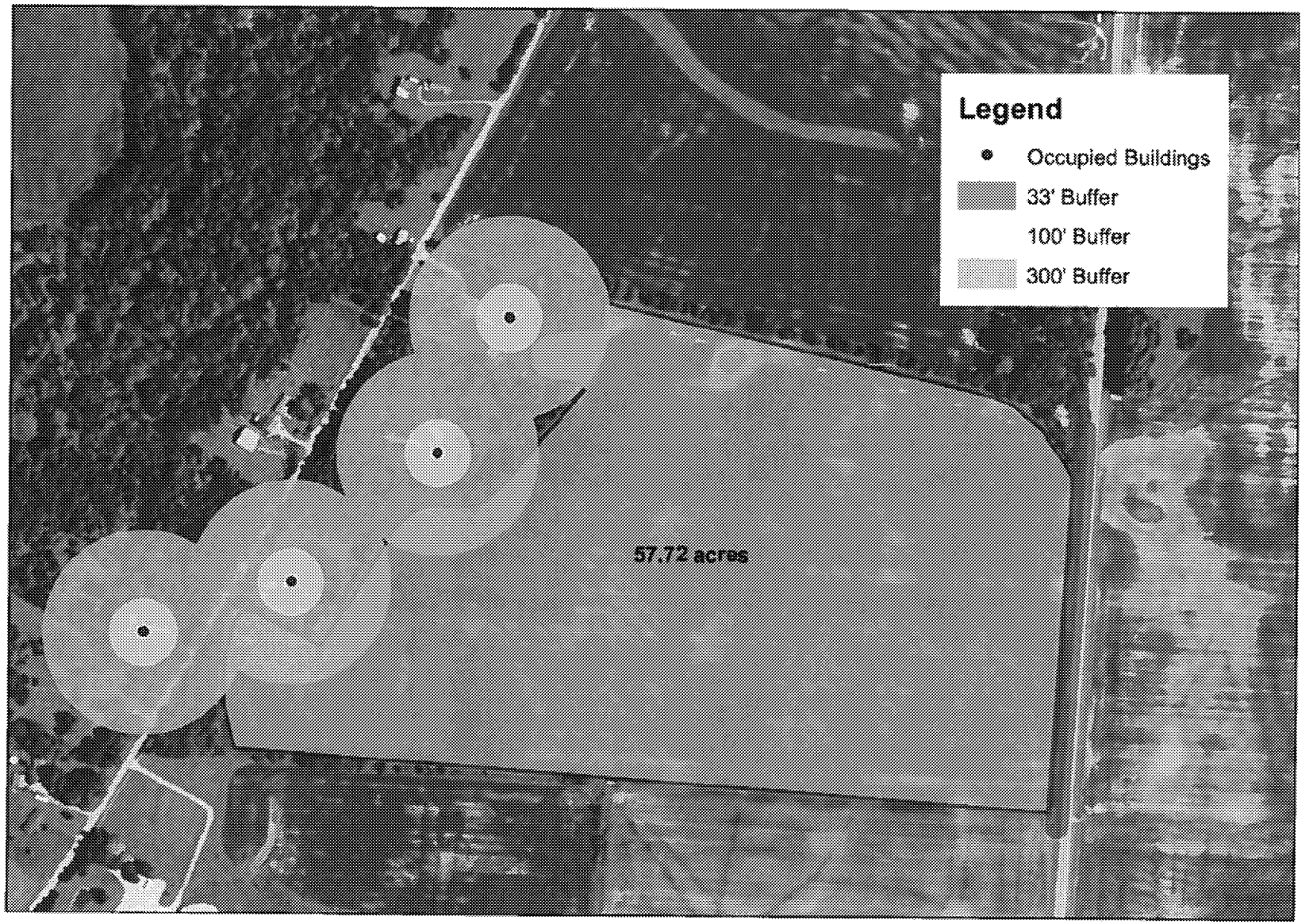
Independent Consultant Brookside Consultants of Ohio, Inc. Date 2/5/2018

Sample Location BALD			4	5	6		
Sample Identification							
Lab Number			0023-1	0024-1	0025-1		
Total Exchange Capacity (ME/100 g)			13.74	8.01	16.76		
pH (H_2O 1:1)			6.6	7.0	6.5		
Organic Matter (360°C LOI) %			3.32	2.37	3.95		
Estimated Nitrogen Release		lb/A	83	67	90		
ANIONS	SOLUBLE SULFUR*	ppm	5	5	5		
ANIONS / PHOSPHORUS	MEHLICH III	lb/A P as P_2O_5	206	92	92		
		ppm of P	45	20	20		
	BRAY II	lb/A P as P_2O_5					
		ppm of P					
	OLSEN	lb/A P as P_2O_5					
		ppm of P					
EXCHANGEABLE CATIONS	CALCIUM*	lb/A	3720	2188	4724		
		ppm	1860	1094	2362		
	MAGNESIUM*	lb/A	606	466	608		
		ppm	303	233	304		
	POTASSIUM*	lb/A	296	156	218		
		ppm	148	78	109		
	SODIUM*	lb/A	22	22	26		
		ppm	11	11	13		
BASE SATURATION PERCENT							
Calcium		%	67.69	68.29	70.47		
Magnesium		%	18.38	24.24	15.12		
Potassium		%	2.76	2.50	1.67		
Sodium		%	0.35	0.60	0.34		
Other Bases		%	4.80	4.40	4.90		
Hydrogen		%	6.00	0.00	7.50		
EXTRACTABLE MINORS							
Boron* (ppm)			0.47	0.29	0.57		
Iron* (ppm)			235	160	208		
Manganese* (ppm)			11	23	9		
Copper* (ppm)			2.29	1.22	2.98		
Zinc* (ppm)			1.67	1.22	1.68		
Aluminum* (ppm)			613	568	613		
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	Bray I P (ppm)		41	16	15		

* Mehlich III Extractable

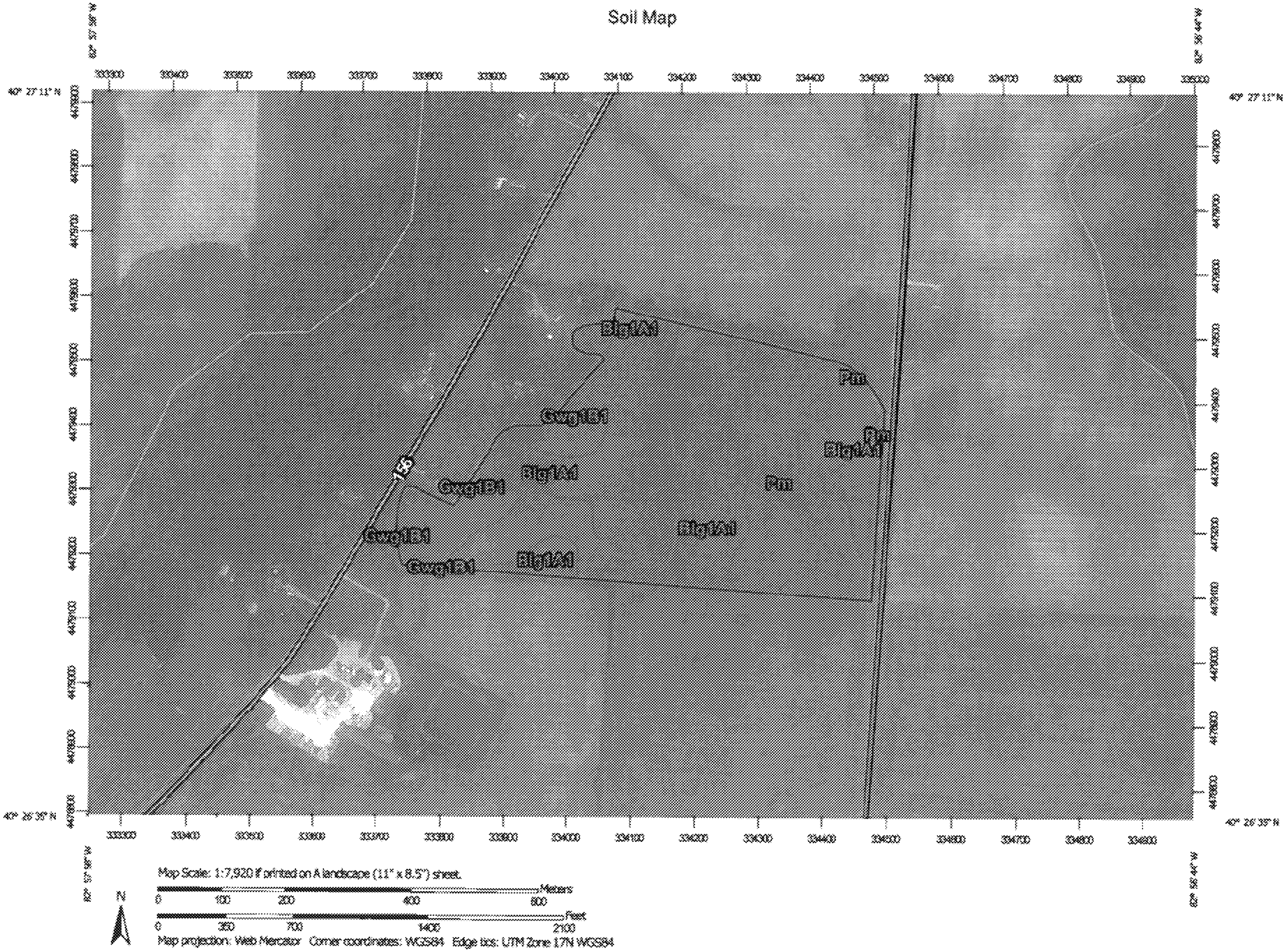

Tire Guy
US-42 W
Polygon 93
MOQ-02-01
MOQ-11-04
MOQ-01-05
MOQ-01-01
MOQ-01-02
MOQ-01-04
Ringler Feedlots
Jason Staley Farm
Waldo-Ashley Rd
Google My Maps

Setback Distance



Setback Distance		
Total Area: 57.72 acres		
Setbacks:		
	Residence - 300' Buffer	3.94 acres
	Residence - 100' Buffer	0.00 acres
	Surface Waters - 33' Buffer	0.21 acres
	Total Setback Area:	4.15 acres

Soil Map



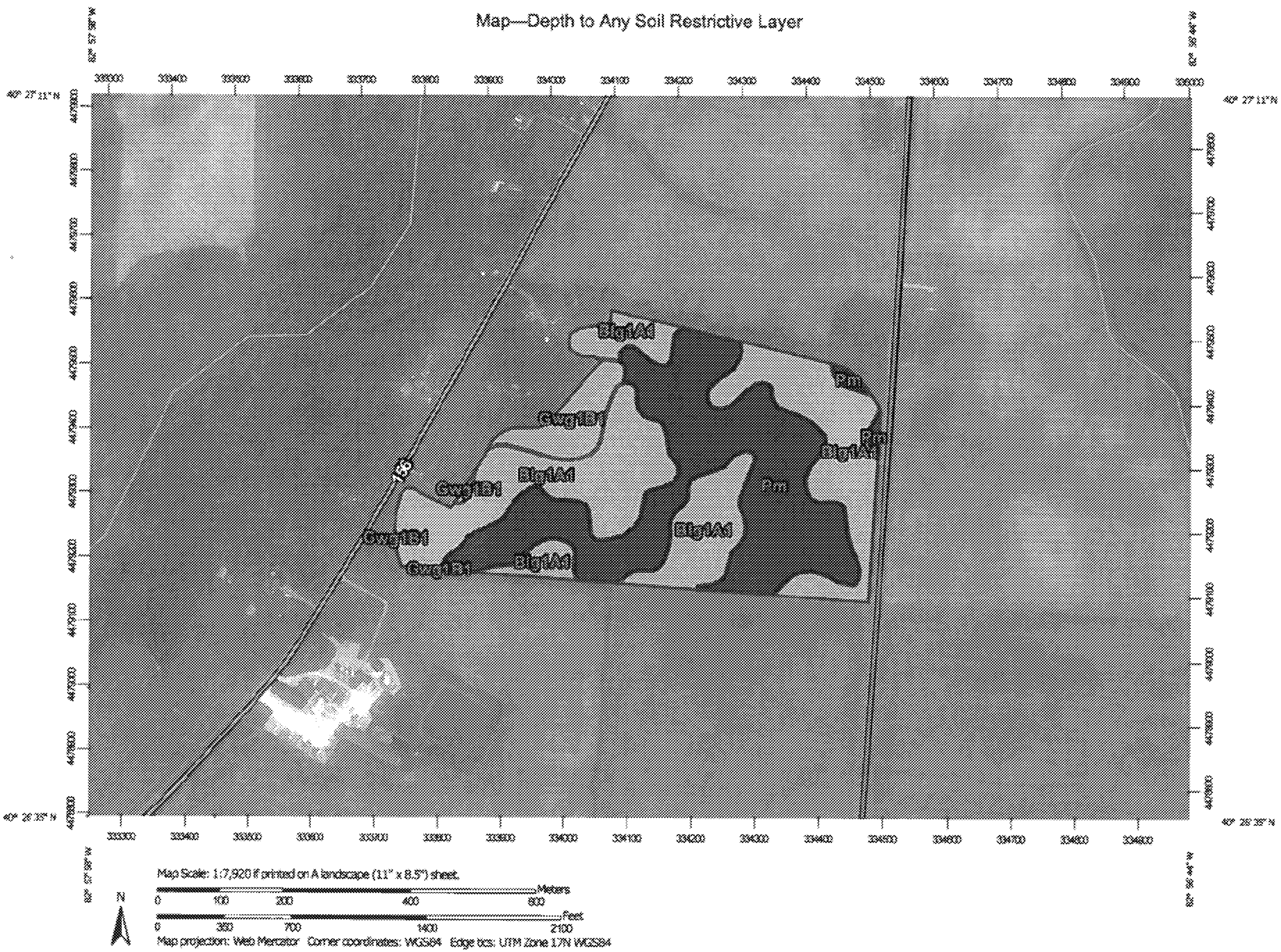
Map Scale: 1:7,920 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	29.8	51.6%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	3.5	6.1%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	24.4	42.3%
Totals for Area of Interest		**57.7**	**100.0%**

Map—Depth to Any Soil Restrictive Layer



Map Scale: 1:7,920 if printed on A landscape (11" x 8.5") sheet.

0 100 200 400 800 Meters

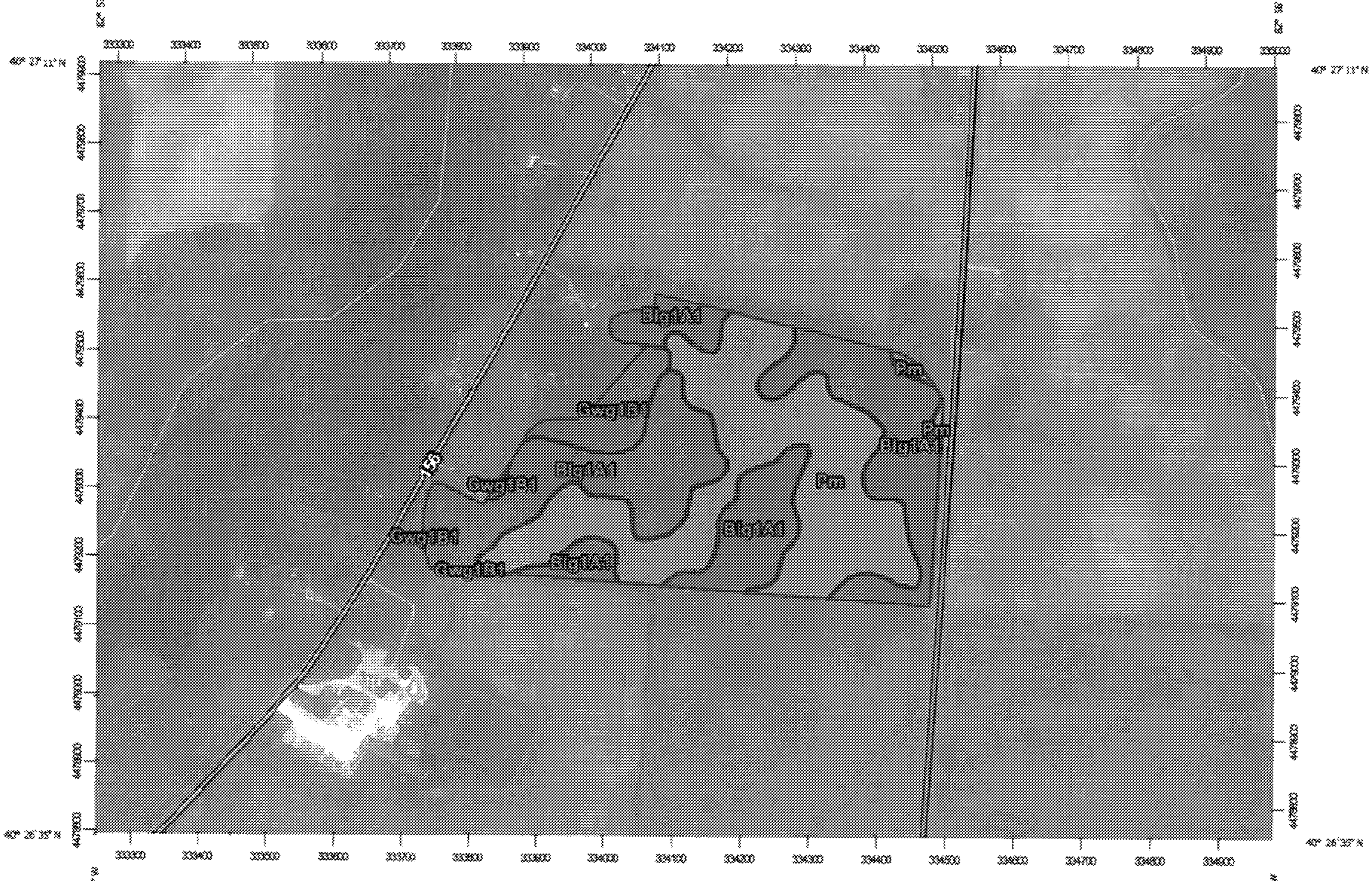
0 350 700 1400 2100 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Table—Depth to Any Soil Restrictive Layer

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Big1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	99	29.8	51.6%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	86	3.5	6.1%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	>200	24.4	42.3%
Totals for Area of Interest			**57.7**	**100.0%**

Map—Hydrologic Soil Group



Map Scale: 1:7,920 if printed on A landscape (11" x 8.5") sheet.

Meters: 0, 100, 200, 400, 600

Feet: 0, 350, 700, 1400, 2100

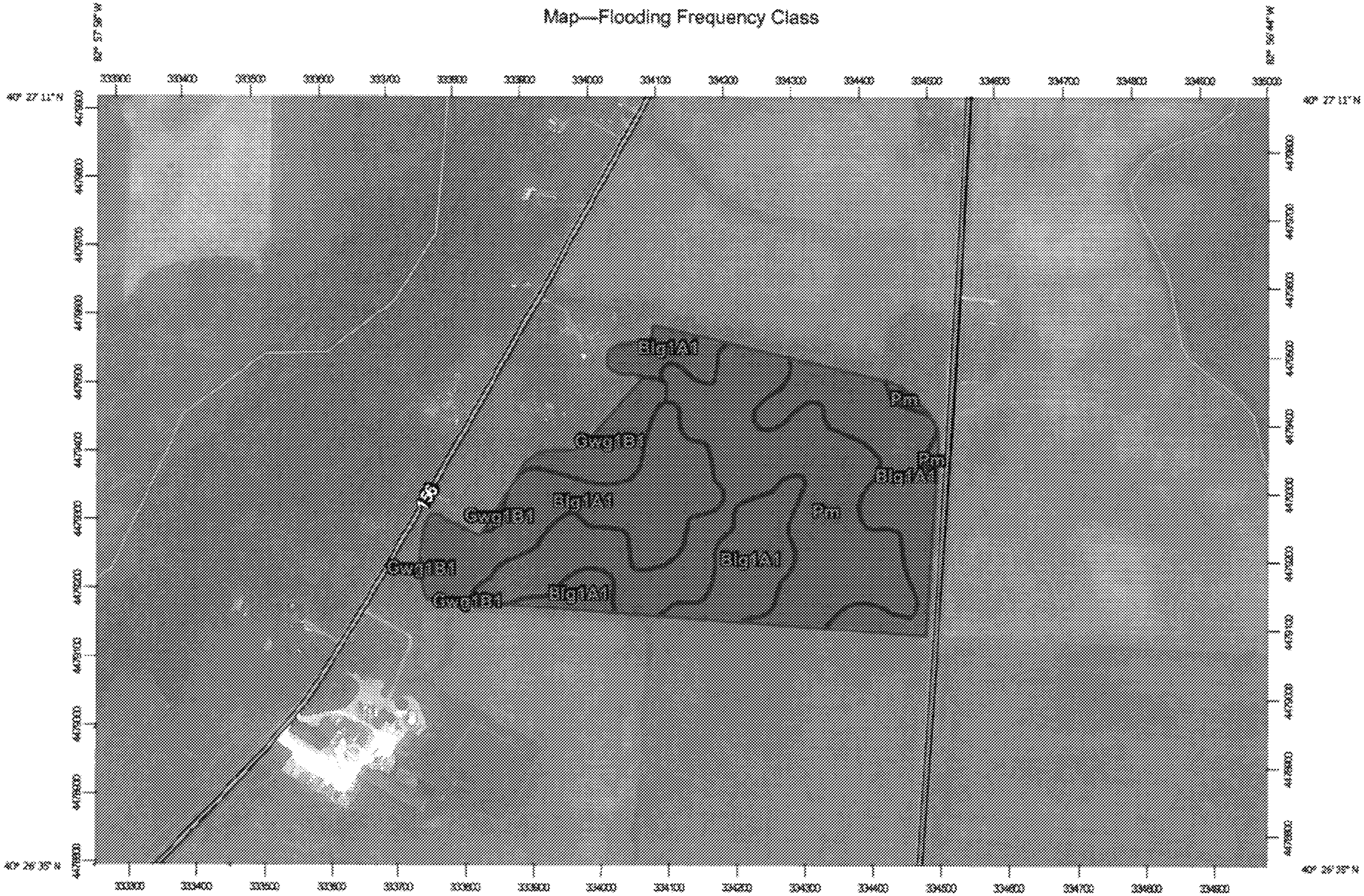
N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	D	29.8	51.6%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	D	3.5	6.1%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	C/D	24.4	42.3%
Totals for Area of Interest			**57.7**	**100.0%**

Map—Flooding Frequency Class



Map Scale: 1:7,920 if printed on A landscape (11" x 8.5") sheet.

0 100 200 400 800 Meters

0 350 700 1400 2100 Feet

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Table—Flooding Frequency Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Big1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	None	29.8	51.6%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	None	3.5	6.1%
Pm	Pewamo silty clay loam, 0 to 1 percent slopes	None	24.4	42.3%
Totals for Area of Interest			**57.7**	**100.0%**